

Comments Regarding Work Zone Safety
Federal Highway Administration
Docket No. FHWA-2001-11130

Submitted by
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Safety Warning System, L.C. respectfully submits the following comments regarding traffic safety improvements that can be made in highway and street work zones. These comments are offered for inclusion in the Federal Highway Administration's Docket No. FHWA-2001-11130. These comments address several specific questions asked in the Advance Notice of Proposed Rulemaking (ANPRM) published in the Federal Register, Vol. 67, No. 25, on February 6, 2002, pages 5532 through 5538.

Summary:

Safety Warning System, L.C. recognizes the need to improve safety in and around highway work zones. The Safety Warning System[®] (SWS[®]) is a tested, proven, readily available, simple to operate, and inexpensive means of advising motorists of special conditions that demand their attention, such as highway work zones. Briefly, the Safety Warning System is a microwave technology that alerts motorists inside their vehicles of potential road hazards and unusual traffic conditions, enabling them to be prepared to take appropriate action. Here's how: The SWS is a two-part system that includes a transmitter and receiver. The brick-size transmitter operates on the same frequency as K-band police traffic radar (24.1 GHz), so a rudimentary form of receiver is the ordinary radar detector already found in some 10 million to 20 million vehicles nationwide. For each different application or use, the transmitter generates a specific message—there are 60 such messages—in SWS receivers. SWS receivers now on the market pick up the transmitter signals and announce them to motorists in a variety of ways. Some receivers have a special LED that is activated by the transmitter, some display a brief message in a text display, and some receivers even give the message to the driver in a synthesized or real voice.

Increased use of SWS transmitters can greatly enhance safety in highway work zones, both for workers and the traveling public. Increased use of SWS transmitters will also help to ease traffic congestion and resulting frustration on the part of the motoring public. We strongly believe that the Safety Warning System should be an integral part of any plan to improve safety and mobility both in highway work zones, and on America's roads generally.

Background and History of the Safety Warning System:

For many years, radar receiver manufacturers, owners, and advocates, as well as law enforcement professionals have recognized the fact that radar receivers increase driver awareness. In response to the receipt of a radar signal, drivers using radar receivers check their speed and pay very close attention to what is happening in their immediate highway environment. Indeed, this behavior is so widely recognized that many police officers leave their radar transmitters on even when they are not being monitored, while operating, for example, in a hazardous environment such as an accident scene or highway construction site.

The Safety Warning System was conceived as a way to take advantage of this known pattern of driver behavior in order to promote highway safety better and more efficiently. In 1996, a group of radar receiver manufacturers formed Safety Warning System, L.C. (SWS, L.C.) in order to develop and promote the Safety Warning System, and promulgate standards for its use. It was decided to incorporate the SWS into current and future radar receiver designs, and the first SWS-

equipped radar receivers became available in mid-1996. There are now more than 25 million SWS-equipped radar receivers in use on America's highways. There are also available to the public dedicated SWS receivers without radar reception capability. Radar receivers manufactured prior to 1996 receive the SWS signal only as a radar signal, which offers the basic benefit of attracting the driver's attention, and alerting him to his surroundings.

How the Safety Warning System Operates:

The Safety Warning System uses existing microwave transmission and reception technology to alert motorists to specific conditions demanding their immediate attention. This is accomplished by the use of an SWS transmitter, which can be stationary, portable, or vehicle mounted, broadcasting one of 64 specific messages approximately one mile ahead. The SWS offers great flexibility for its users, allowing broadcast messages to be reprogrammed, timed, and otherwise customized according to specific traffic conditions, weather conditions, and other user needs.

The SWS transmitter triggers a unique audio tone, accompanied by the visual display of the specific message on the face of the SWS receiver. Those messages are grouped into five categories. One of those categories, Highway Construction/Maintenance, is particularly applicable to this ANPRM. The list of available messages within this category includes:

- Work Zone Ahead
- Road Closed Ahead/Follow Detour
- Bridge Closed Ahead/Follow Detour
- Highway Work Crews Ahead
- Utility Work Crews Ahead
- All Traffic Follow Detour Ahead
- All Trucks Follow Detour Ahead
- Right Lane Closed Ahead
- Center Lane Closed Ahead
- Left Lane Closed Ahead
- Stationary Police Vehicle Ahead

The SWS transmitter can be programmed to follow its initial alert with a second message, and some newer SWS receivers announce the alert in a synthesized human voice.

Advantages and Benefits of the Safety Warning System:

The SWS, which is patented and approved by the Federal Communications Commission, is an existing Intelligent Transportation Systems (ITS) component already in use in selected locations in 31 states.

The SWS, especially in applications relevant to this ANPRM, is inexpensive, maintenance-free, portable, durable, reusable, and can be easily modified or changed to suit unique local conditions.

SWS transmitters, whether they are portable, fixed, or vehicle-mounted, require little or no specialized training or learning curve for their operators.

Half of the Safety Warning System is paid for by consumers, and is already in use in 25 million vehicles. SWS receivers operate automatically, and require no special action by their owners in order to receive an SWS transmission.

The value of the SWS has long been recognized by the FHWA. In an October 1997 publication, No. FHWA-RD-97-108, FHWA offered information on how real-world transportation needs across the U.S. were being met by low-cost technologies, and cited the SWS as one of these “simple solutions.” In TEA-21, \$2.1 million was allocated for research on the SWS conducted at the Georgia Technical Research Institute. SWS integrates perfectly with FHWA’s National Agenda for Work Zones, and will help FHWA meet its Work Zone Mobility and Safety Program objectives, as explained by the FHWA’s Work Zone Integrated Product Team in its October 2001 presentation on Work Zone Mobility and Safety.

Response to Specific Questions in this NRPRM:

The current regulation specifies the requirement for TCPs [Traffic Control Plans] for work zones, but does not address the issues of sustained traffic management and operations, or traffic enforcement methods and partnerships. Should the scope of TCPs be expanded to include such considerations? What are the most relevant practices or technologies that should be considered in planning for traffic management, enforcement, and operations? What are the most appropriate ways to facilitate the inclusion of such considerations in traffic control planning?

SWS, L.C. believes that regulations regarding TCPs should take into consideration the issues of sustained traffic management and operations, and traffic enforcement methods and partnerships, and that the scope of TCPs should be expanded to include such considerations. We believe the SWS should be a vital component of any TCP regulations setting up traffic management requirements. The SWS is a tested system, proven to be effective, which is a readily available, simple to operate, and inexpensive means to advise motorists of special conditions that demand their attention. It is ideally suited for use in work zones, and should be at the forefront of various technologies being considered for use under any new TCP regulations.

How can we better communicate the anticipated work zone impacts and the associated mitigation measures to the public? Who – the State, local government, contractor, or other agency – should be responsible for informing the public?

Should projects with substantial disruption include a public communication plan in the project development process? If so, what should such a plan contain?

SWS, L.C. believes that safety and mobility, for both highway workers and motorists, can be enhanced through the widespread use of the Safety Warning System. Given that congestion and crash rates are closely connected – each in turn increasing the other – a maximum level of notification and communication with the motoring public will benefit everyone involved. The SWS, being inexpensive, already available, and easy to use, provides a way to achieve a high

level of public notification expeditiously and at low cost. SWS, L.C. believes that the SWS should be included as a component of any public communication plan, and that the use of SWS in and around highway work zones should be promoted as part of any public information program.

Conclusion:

Safety Warning System, L.C. shares the FHWA's concern for the impact of highway construction and work zones on the traveling public. We believe that increased use of the Safety Warning System will have an immediate beneficial impact on highway workers and the motoring public. The Safety Warning System is a tested, proven, readily available, simple to operate, and inexpensive means of advising motorists of special conditions that demand their attention. The SWS qualifies as a real-time use of ITS to manage traffic, and it is particularly applicable to the special challenge of enhancing safety in highway work zones. Safety Warning System, L.C. appreciates the opportunity to submit comments on this important public safety issue.